

# PATENT ABSTRACTS OF JAPAN

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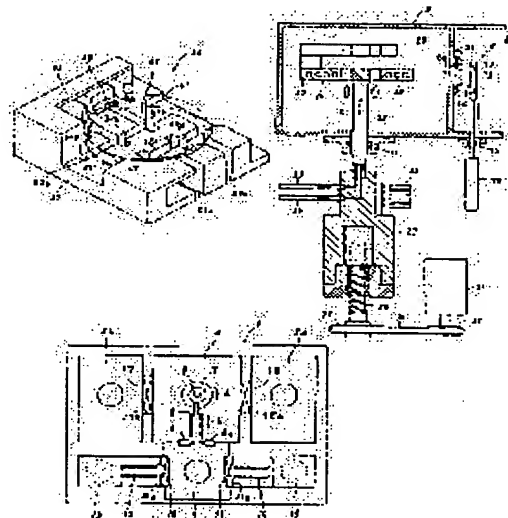
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## (54) MECHANISM FOR EXCHANGING SUBSTRATE IN VACUUM VESSEL

### (57)Abstract:

**PURPOSE:** To shorten the waiting time in a reaction chamber and to improve productivity by taking the next substrate into a substrate exchanging chamber during the treatment of a substrate in the CVD reaction chamber and completing vacuum evacuation before the end of said treatment.

**CONSTITUTION:** A substrate 47, 47' support 24 is provided in the substrate 47, 47' exchanging chamber 5 in which a vacuum state is maintained by closing gate valves 10, 11 in both side wall parts and opening a gate valve 6 with a binder chamber 3. The untreated substrate 47 is held imposed in an upper supporting part 58 thereof. The treated substrate 47' is then imposed in the vacuum state to the lower supporting part 59 of the support 24 by the combination of the forward and backward motion of a fork 8 in the above-mentioned chamber 3 and the vertical motion of a driving shaft 24 which moves the support 24 vertically in such a manner that said support can be stopped in prescribed plural positions. The substrate 47 is ejected in this state to the above-mentioned chamber 3 by the fork 8 and thereafter, the above-mentioned valves 10, 11, 6 are opened and closed to maintain the atm. pressure in the chamber 5. The substrate 47' is ejected by a belt 14' to a cassette 15 and the substrate 47 in a cassette 13 is carried into the supporting part 58 by a belt 12, etc. The inside of the chamber 5 is then evacuated and the above-mentioned operations are repeated.



## LEGAL STATUS

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